

## **EXHIBIT K**

### **PESTICIDE SOIL MANAGEMENT PLAN**

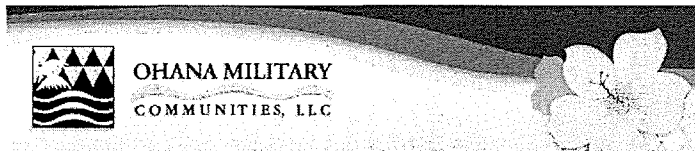
All activities performed under this plan shall be performed in accordance with this Agreement. Any conflict between this plan and this Agreement shall be governed by this Agreement. Unless defined separately herein, the terms used in this plan shall be the same as used and defined in this Agreement.

# ***PESTICIDE SOIL MANAGEMENT PLAN***

***OHANA MILITARY COMMUNITIES, LLC***

***PUBLIC-PRIVATE VENTURE HOUSING - HAWAII***

***Prepared for***



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## 1.0 INTRODUCTION

This Pesticide Soil Management Plan (Plan) outlines the actions that must be taken to deal with the use of pesticide-impacted soils at certain Department of the Navy housing communities in Hawaii and the actions that must be taken to deal with identified pesticides and pesticide residues. The plan also highlights the applicable federal requirements to assist Ohana Military Communities, LLC, the Lessee, in their compliance efforts. The purpose of this Plan is to provide guidelines for the safe handling and management of pesticide-impacted soils and to implement procedures and practices in order to minimize exposure to pesticide-impacted soils by construction personnel, residents, maintenance workers and subcontractors living and working at and in the Leased Premises and Project.

All activities performed under this Plan shall be performed in accordance with Environmental Laws. "**Environmental Laws**" means any present or future federal, state, or local law, regulation, ordinance, code, plan, order, permit, grant, restriction, certification, or agreement issued, entered, promulgated or approved thereunder, relating to (a) the generation, manufacture, presence, release, discharge, use, storage, handling, transportation or disposal of Environmental Hazard, including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 42 U.S.C. § 9601, et seq., as amended and Solid Waste Disposal Act, 42 U.S.C. § 6901, et seq., as amended, (b) pollution, (c) environmental protection, (d) human health or occupational safety, (e) endangered or threatened species or (f) the environment. To the extent this Plan is attached to the Ground Lease, this plan shall be followed by the Manager and Lessee. For the purpose of the Plan, the term "**Manager**" shall mean the Design-Builder under the Design-Build Agreement, and Construction Manager under the Construction Management Agreement, and Property Manager under the Property Management Agreement and "Lessee" under the Ground Lease. All conflicts between this Plan and the Ground Lease shall be governed by the Ground Lease. The Manager will comply with requirements of this Plan.

Capitalized terms not otherwise defined herein shall have the meanings set forth in the Ground Lease, dated as of even date herewith, by and between the Lessee and the Department of the Navy (the Ground Lease).

This Plan covers the Leased Premises and Project.

### 1.1 BACKGROUND

Surface and subsurface investigations to collect representative data on concentrations of chlordane and other pesticides were conducted at the Leased Premises and Project. Concentrations found at each of the housing communities are presented in Table 1 of this Plan for the Navy Phase I (2004 Project) and included in the Phase II Environmental Site Assessments – Subsurface Investigation Reports for the Marine Corps Phase II and Navy Phase III Projects (2006 Project)(included in this Plan as Appendix A). The 2004 Project results indicate that the highest concentrations are largely adjacent to existing structures. However, further investigation has determined that highest concentrations are found under the concrete slabs. These results are supported by the historic use of chlorinated pesticides to control termites.

It should be noted that a risk assessment has been conducted as part of the Phase II Environmental Site Assessment - Subsurface Investigation Reports for the 2006 Project, and a new criteria, the Tier 2 EALs, have been proposed to the Hawaii Department of Health (DOH). **Upon concurrence of the Tier 2 EALs by DOH, this Plan will be updated, consistent with the terms of the Ground Lease, to reflect the revised standards that will be applied to pesticide soil management.**

Chlorinated pesticides are synthetic compounds that were used widely as an insecticide on food crops and as a termiticide for buildings and homes. Since 1988, the use and commercial production of certain chlorinated pesticides has been prohibited in the United States and many other countries. However, chlorinated pesticides residue is still present from prior use in many homes and other structures, as well as the surrounding soil.

## **1.2 PESTICIDE HAZARDS**

Chlorinated pesticides and pesticides residues identified from the subsurface investigations included chlordane, aldrin, dieldrin, heptachlor, heptachlor epoxide, lindane, DDD, DDE, and DDT.

### **1.2.1 Chlordane**

Chlordane is a man-made chemical that was used as a pesticide in the United States from 1948 to 1988. From 1983 to 1988, the only approved use of chlordane was to control termites in homes. Most exposures to chlordane are through inhalation, ingestion or absorption through the skin. The most common source is from ingesting chlordane-contaminated food. Swallowing small amounts of chlordane or breathing air containing high concentrations of chlordane vapors can cause headaches, irritation, confusion, weakness, and vision problems. It is not known whether chlordane will cause cancer in humans after long-term exposures. It is also not known whether chlordane will cause reproductive or birth defects in humans.

### **1.2.2 Aldrin and Dieldrin**

Aldrin and dieldrin are the common names of two structurally similar compounds that were once used as insecticides. The two chemicals are discussed together because aldrin readily changes into dieldrin once it enters the environment or the human body. From the 1950s to the 1970s, aldrin and dieldrin were used as insecticides on crops such as corn and cotton. From 1972 through 1987, aldrin and dieldrin were used to control termites. Most exposures to aldrin and dieldrin are through inhalation, ingestion or dermal exposure to impacted soil. Exposure to moderate levels of aldrin/dieldrin for a long time causes headaches, dizziness, irritability, vomiting, or uncontrollable muscle movements. Based on animal studies, the US Environmental Protection Agency (EPA) has determined that aldrin and dieldrin are probable human carcinogens.

### **1.2.3 Heptachlor and Heptachlor Epoxide**

Heptachlor is a manufactured chemical that was used up until 1988 as an insecticide in homes, buildings and on food crops. Bacteria and animals break down heptachlor to form heptachlor epoxide. Heptachlor is still used today to kill fire ants in power transformers. The most common sources of exposure to heptachlor are through inhalation, ingestion and absorption through the skin. No reliable human studies were found that show whether harmful effects occur from eating contaminated foods or by drinking liquids contaminated with heptachlor or heptachlor epoxide.

### **1.2.4 DDT, DDD and DDE**

DDT is a pesticide once widely used to control insects and insects that carry diseases such as malaria. Its use in the United States was banned in 1972. DDD was also used to kill pests, but its use has also been banned. DDD and DDE enter the environment as breakdown products of DDT. Although these chemicals breakdown in air rapidly, they adhere to soil strongly. DDT in soil is broken down slowly to DDE and DDD by microorganisms in 2 to 15 years, depending on the soil type.

Exposure to DDT, DDD and DDE is through ingestion (of contaminated food) and inhalation, may result in tremors and seizures, and may affect the nervous and reproductive systems. The EPA has determined that DDT, DDD, and DDE are probable human carcinogens.

### **1.2.5 Lindane**

Lindane is used as an insecticide and is still in use in the United States as seed treatment for corn, wheat, barley, oats, rye and sorghum. Poisoning with lindane may occur by ingestion, inhalation, or skin adsorption. Possible acute symptoms include headache, nausea, vomiting, diarrhea, tremors, weakness, convulsions, etc. Children are particularly vulnerable to the toxic effects of lindane.

## **1.3 REASONABLE MAXIMUM CONCENTRATIONS, SOIL SCREENING LEVELS, AND PRELIMINARY REMEDIATION GOALS FOR PESTICIDES FOUND AT THE SITES**

As part of the subsurface investigations conducted at Halsey Terrace, Hokulani, McGrew Point, Radford Terrace for the 2004 Project, maximum concentrations and reasonable maximum exposure concentrations (RME) were estimated for these housing communities. Many of the values exceeded the residential Preliminary Remediation Goals (PRG) published by EPA Region 9. As a result, a screening risk assessment was conducted to identify receptors and pathways to the chlorinated pesticide-impacted soil and to subsequently calculate soil-screening levels (SSL) as action levels at the sites. Maximum concentrations, RMEs, PRGs, SSLs for residents, construction workers, and off-site residents in the 2004 Project communities that were sampled are presented in Tables 1 through 3 (PSI, Pesticide Management Plan, Sept 22, 2004).

**Table 1**

**PRGs, Maximum Concentrations, and RMEs in the Upper 2-Feet at  
Halsey Terrace, Hokulani, McGrew Point, and Radford Terrace**

Pesticide	PRGs (mg/kg)	MAX (surface soil) (mg/kg)	RME (UCL surface soil) (mg/kg)	MAX (total) (mg/kg)	RME (UCL total) (mg/kg)
<b>Halsey Terrace</b>					
Chlordane	1.6	44	9.733	44	3.40
DDD	2.4	0.006	0.112	0.081	0.06
DDE	1.7	0.031	0.100	0.31	0.10
DDT	1.7	0.089	0.057	2.50	0.74
Dieldrin	0.03	NA	NA	0.25	0.08
Heptachlor	0.11	0.43	0.073	0.43	0.12
Heptachlor epoxide	0.053	0.70	0.200	1.50	0.20
<b>Hokulani</b>					
Chlordane	1.6	22	0.030	NA	NA
DDD	2.4	0.044	0.014	NA	NA
DDE	1.7	0.90	0.079	NA	NA
DDT	1.7	2.10	0.135	NA	NA
Dieldrin	0.03	1.80	0.214	NA	NA
Heptachlor	0.11	0.033	0.009	NA	NA
Heptachlor epoxide	0.053	0.18	0.030	NA	NA
<b>McGrew Point</b>					
Chlordane	1.6	180	23.500	180	18.30
DDT	1.7	2.70	0.355	3.20	0.36
Dieldrin	0.03	0.40	0.044	1.00	0.07
Heptachlor	0.11	3.40	0.352	5.50	0.39
Heptachlor epoxide	0.053	6.40	0.698	7.20	0.64
<b>Radford Terrace</b>					
Chlordane	1.6	11	1.920	11	1.20
Dieldrin	0.03	0.073	0.014	0.073	0.02
Heptachlor epoxide	0.053	0.069	0.011	0.069	0.01

**Table 2**

**Comparison of Chlorinated Pesticide Concentrations with  
Soil Screening Levels Estimated for Residential Scenario**

Pesticide	MAX (surface soil) (mg/kg)	RME (UCL surface soil) (mg/kg)	Residential SSLs Ingestion & Dermal (mg/kg)	Residential SSLs Fugitive Dust (mg/kg)
Halsey Terrace				
Chlordane	44	9.733	1.62	8681.08
DDD	0.006	0.112	2.44	33113.40
DDE	0.031	0.100	1.72	33113.40
DDT	0.089	0.057	1.72	33113.40
Dieldrin	NA	NA	0.04	698.26
Heptachlor	0.43	0.073	0.13	2470.77
Heptachlor epoxide	0.70	0.200	0.06	1235.38
Hokulani				
Chlordane	22	0.030	1.62	8681.08
DDD	0.044	0.014	2.44	33113.40
DDE	0.90	0.079	1.72	33113.40
DDT	2.10	0.135	1.72	33113.40
Dieldrin	1.80	0.214	0.04	698.26
Heptachlor	0.033	0.009	0.13	2470.77
Heptachlor epoxide	0.18	0.030	0.06	1235.38
McGrew Point				
Chlordane	180	23.500	1.62	8681.08
DDT	2.70	0.355	1.72	33113.40
Dieldrin	0.40	0.044	0.04	698.26
Heptachlor	3.40	0.352	0.13	2470.77
Heptachlor epoxide	6.40	0.698	0.06	1235.38
Radford Terrace				
Chlordane	11	1.920	1.62	8681.08
Dieldrin	0.073	0.014	0.04	698.26
Heptachlor	0.069	0.011	0.13	2470.77



**Table 3**

**Comparison of Chlorinated Pesticide Concentrations with  
Soil Screening Levels Estimated for Construction Workers  
And Off-Site Residents During Construction**

Pesticide	MAX (total) (mg/kg)	RME (UCL total) mg/kg	Construction Worker SSLs Ingestion & Dermal (mg/kg)	Construction Worker SSLs Fugitive Dust (mg/kg)	Off-Site Resident SSL Fugitive Dust (mg/kg)
Halsey Terrace					
Chlordane	44	3.40	13.83	2.20	23.60
DDD	0.081	0.06	20.72	2.27	24.33
DDE	0.31	0.10	14.62	2.27	24.33
DDT	2.50	0.74	12.19	2.27	24.33
Dieldrin	0.25	0.08	0.31	0.05	0.51
Heptachlor	0.43	0.12	1.10	0.17	1.82
Heptachlor epoxide	1.50	0.20	0.55	0.08	0.91
McGrew Point					
Chlordane	180	18.30	13.83	2.20	23.60
DDT	3.20	0.36	12.19	2.27	24.33
Dieldrin	1.00	0.07	0.31	0.05	0.51
Heptachlor	5.50	0.39	1.10	0.17	1.82
Heptachlor epoxide	7.20	0.64	0.55	0.08	0.91
Radford Terrace					
Chlordane	11	1.20	13.83	2.20	23.60
Dieldrin	0.073	0.02	0.31	0.05	0.51
Heptachlor	0.069	0.01	1.10	0.17	1.82

## **2.0 PESTICIDE SOIL MANAGEMENT – DEMOLITION AND CONSTRUCTION ACTIVITIES**

### **2.1 INTRODUCTION**

The purpose of this section is to reduce exposures of residents in the housing communities and construction workers to pesticides and pesticide residues during demolition and construction activities. The primary exposure pathways are ingestion, dermal contact and fugitive dust inhalation. The Lease prohibits the pumping or use of groundwater in the 2004 Project and the 2006 Project. Thus the potential exposure pathway of groundwater contact is eliminated.

This section presents the recommendations to mitigate soils impacted with pesticides above published SSLs or residential PRG concentrations in conjunction with the planned construction activities in the housing communities. All work should be done in accordance with all applicable laws.

### **2.2 DETERMINING PESTICIDE CONCENTRATIONS**

Currently, all soils 18-inches under the slab are assumed to be pesticide-impacted and remediated based on initial due diligence testing, and no further testing is conducted under the slabs. Multi-increment sampling approved by the DOH is conducted after grading, based on decision areas (backyards, parks, play areas, etc.). Before the pads are turned over, ten percent of the backyards within the proposed fenced area of the new pads are tested to verify that impacted soils are removed.

However, the following sampling requirements shall be followed if all soils under the slabs are not removed and no testing data is available for the site.

#### **2.2.1 Sampling Requirements**

The following are the sampling requirements for each type of area located throughout the communities provided by PSI in their Pesticide Management Plan, dated September 22, 2004.

##### **Graded Sites**

Two (2) soil samples will be collected in the upper 6-inches and two (2) soil samples will be collected at a depth of 2 feet below ground surface (bgs) at a minimum of 30 locations at each community. A population of 30 gridded locations is necessary to establish a statistically valid population in estimating relative mean error values.

##### **Housing Areas**

Upon removal of building pads, two (2) soil samples will be collected in the upper 6-inches and two (2) soil samples will be collected at a depth of 2 feet below ground surface (bgs) beneath each pad. Previous sampling conducted under a Phase II Environmental Site Assessment for the 2004 Project determined that the highest concentrations of chlorinated pesticides were found adjacent to housing structures due to the historic use of

chlorinated pesticides to control termites, thus, the requirement to sample at 2 feet bgs in contrast to sampling at 18 inches bgs for other areas (PSI, Pesticide Soil Management Plan, September 22, 2004).

### **Playgrounds**

Two (2) soil samples will be collected in the upper 6-inches and two (2) soil samples will be collected at a depth of 18-inches bgs at selected locations in these areas.

### **Fenced Yards, Parks, Athletic Fields**

Two (2) soil samples will be collected in the upper 6-inches and two (2) soil samples will be collected at a depth of 18-inches bgs at selected locations in these areas.

#### **2.2.2 Analytical Method**

The analytical methodology to be used to determine pesticide concentrations in soil samples is SW846 8081A (for organochlorine pesticides). Strict adherence to the method protocols is required.

## **2.3 MANAGEMENT OF IMPACTED SOILS DURING CONSTRUCTION AND DEMOLITION**

### **2.3.1 Use of Clean Soil for Cover**

To prevent exposure to pesticides and pesticide residues in impacted soils from direct contact or exposure, clean soil will be used for cover. Soils used for cover should be certified to be "clean" from hazardous substances [by the supplier] including, but not limited to, pesticides, petroleum hydrocarbons, and heavy metals. An alternative to this certification is the representative sampling and testing of source materials prior to transporting to the communities. Clean soils also refer to soils that are found away from structures and locations documented as not containing concentrations of pesticides or residues or other hazardous substances above the EPA residential PRGs or SSLs.

### **2.3.2 Management of Impacted Soil Prior to Use**

Removed pesticide-impacted soils may be stockpiled or immediately transported directly for use below proposed building pads, roadways and fills. Removed pesticide-impacted soils that are stockpiled should be covered with 6 mil polyethylene sheeting and appropriate runoff preventative measures implemented. Remaining soils may be used for fill in specified areas of the property under a 6-inch minimum of clean soil. Areas such as fenced yards, tot lots, playgrounds, parks, athletic fields, and similar areas which experience more use than other areas will be covered with 18-inches of clean soil as a more protective measure. Pesticide-impacted soils will not be moved to areas which might be uncovered in the future, such as sites planned for future construction, or in the vicinity of underground piping.

A record of where pesticide-impacted soils are placed (below pads, roadways, etc.) must be maintained.

### **2.3.3 Disposal of Impacted Soil**

Pesticides or pesticide-impacted material will not be disposed of off-site on federal government property. Pesticides will be disposed of in accordance with applicable federal, state, and local laws and regulations. Copies of the disposal manifests will be provided to the Department of the Navy as required.

Excess pesticide-impacted soils may need to be transported off-site to PVT landfill in Nanakuli. The Manager will contact PVT landfill and meet acceptance criteria prior to hauling to the landfill. Based on acceptance by the landfill, pesticide-impacted soils with levels below the industrial PRGs from housing communities on Oahu and from PMRF Kauai may be transported as landfill cover material to Waimanalo Gulch and Kekaha landfill, respectively.

Pesticide-impacted soils may be considered hazardous waste under certain conditions including transporting the material off site. The Resource Conservation and Recovery Act (RCRA) regulates the disposal of hazardous waste. If a specific waste is listed, exceeds regulatory levels, or fails specified tests under RCRA then the waste may be classified as hazardous. Hazardous waste must be transported by a licensed transporter and disposed, stored, or treated at a permitted facility. The permitted facility must be contacted prior to shipment to determine suitability and acceptability by the facility. Once disposal authorization has been obtained to dispose of pesticide wastes at a specific approved facility, a manifest will be prepared by the generator of the hazardous waste. The manifest will accompany the waste to the disposal facility. Copies of manifests should be kept and filed in a central location along with other pertinent hazardous materials documentation. Other environmental laws may also apply to the disposal of pesticides. Handling, transportation, and disposal of pesticides and pesticide-impacted material will be performed in accordance with applicable federal, state, and local laws and regulations. If a Hazardous Waste Generator EPA ID number is required for disposal, the Manager will request a number from EPA Region 9.

### **2.3.4 Use of Impacted Soil in Construction Areas**

#### **Site Grading**

Upon completion of grading activities in each phase, soil samples will be collected as described in Section 2.2. The samples will be forwarded to an analytical laboratory for rush analysis of pesticides.

If pesticide concentrations exceed published SSLs or residential PRGs in areas that will not be covered by the proposed new pad locations, then:

- 6-inches of clean soil (available onsite or imported) will be used to cover the impacted soil unless the area is designated for fenced yards, parks, athletic fields, tot lots or play lots, then 18-inches of clean soil (available onsite or imported) will be used to cover the impacted soil, or
- remove the impacted soil (soil testing above the SSLs or residential PRGs) and replace with clean soil (available onsite or imported).

## **Housing Areas**

Soil samples will be collected upon removal of the building pads as described in Section 2.2. The samples will be forwarded to an analytical laboratory for rush analysis of pesticides.

If pesticide concentrations exceed published SSLs or residential PRGs in areas that will not be covered by the proposed new pad locations, then:

- 6-inches of clean soil (available onsite or imported) will be used to cover the impacted soil, or
- remove the impacted soil (soil testing above the SSLs or residential PRGs) and replace with clean soil (available onsite or imported).

## **Playgrounds**

Playground areas where community playground equipment is present should be covered with synthetic material to prevent digging and other activities that may expose subsurface soils that may be impacted with pesticides. In playgrounds, an 18-inch cap or cover layer of clean soil will be placed over areas that are known or suspected to have pesticide-impacted soils.

Soil samples will be collected as described in Section 2.2. The samples will be forwarded to an analytical laboratory for rush analysis of pesticides.

If pesticide concentrations exceed published SSLs or residential PRGs in areas that will not be covered by the proposed new pad locations, then:

- 6-inches of clean soil (available onsite or imported) will be used to cover the impacted soil unless the area is designated for fenced yards, parks, athletic fields, tot lots or play lots, then 18-inches of clean soil available onsite or imported will be used to cover the impacted soil, or
- remove the impacted soil (soil testing above the SSLs or residential PRGs) and replace with clean soil (available onsite or imported).

## **2.4 MANAGEMENT OF FUGITIVE DUST FROM IMPACTED SOILS**

Acute inhalation of chlorinated pesticide vapor is unlikely because of low vapor pressure at ordinary temperatures; however, chlorinated pesticides are semi-volatile and may volatilize in hot environments. The odor threshold for chlorinated pesticides is about 10 times lower than the OSHA PEL; however, odor may not provide an adequate warning for prolonged exposures because olfactory fatigue may occur. Toxic effects can occur after acute inhalation of a spray or mist containing pesticides and after chronic inhalation, usually by occupants of contaminated houses. With pesticide formulations, toxicity may also occur from inhalation of the solvents used in pesticides.

Fugitive dust is a concern for both construction workers and off-site residents. SSLs for fugitive dust for construction workers are generally low and therefore are the driving concentrations used in mitigating this exposure.

#### **2.4.1 Fugitive Dust Control Measures**

The following measures will be implemented during soil excavation to prevent/minimize the generation of fugitive dust:

- Non-permeable perimeter fencing along the perimeter of the construction area.
- Prevention of visible fugitive dust from spreading beyond the property line bordering the source of the fugitive dust.
- Reduction of dust levels to no visible emissions beyond the construction site.
- Application of water or dust suppressant material regularly and frequently to exposed soils to minimize dust. Plastic sheeting of appropriate thickness may be used as an alternative for dust control.
- Vehicular traffic and speeds kept to a minimum to minimize dust generation.
- Designation of an onsite stockpile location that does not pose a health threat to the public or onsite personnel.
- Securing all stockpile locations behind locked fencing. The stockpile areas will be properly identified with appropriate signage. The stockpile areas will be covered with 6 mil polyethylene sheeting and appropriate runoff preventative measures will be implemented.
- Cover or tarps on trucks transporting soil to minimize dust generation.
- Preventing soil spills or mixing of soils with surface soils when transporting surplus soil across the site. Any such spillage should be identified in the onsite activity log and immediately reported to the Manager for instructions on how to proceed with handling the spill.

#### **2.4.2 Air Monitoring**

The following air monitoring program has been developed to assess the effectiveness of the dust suppression controls within designated controlled work areas. Since the focus of the soil mitigation plan is source release control, general offsite ambient monitoring is not anticipated or included.

Air monitoring will be performed on a periodic basis by a qualified professional within designated controlled work areas using a combination of air samplers and direct reading instruments. In general, air samples will be collected upwind and downwind of slab removal and grading activities within a construction area. Wind direction will be estimated from an onsite wind indicator. Monitoring will be conducted in accordance

with National Institute for Occupational Safety and Health (NIOSH) Method 5600. An expanded analytical panel may be used to evaluate other pesticides based on the types and concentrations that will be encountered within the various local controlled work areas.

Air sampling may be supplemented by the use of direct reading MiniRam respirable aerosol monitors. The MiniRam will provide real time indirect evaluation of potential airborne dust levels and the effectiveness of the work practices in minimizing the generation of airborne dust.

Visible dust is apparent at 2 to 3 milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ). The OSHA Permissible Exposure Level (PEL) for chlordane is  $0.5 \text{ mg}/\text{m}^3$ , as averaged over an 8-hour work shift and the NIOSH Immediately Dangerous to Life and Health (IDLH) level is  $100 \text{ mg}/\text{m}^3$ . For this program, a project action level of one fourth of the PEL will be used with a value of  $0.13 \text{ mg}/\text{m}^3$ . Based on current soil sampling data (Halsey Terrace, McGrew Point, Hokulani, and Radford Terrace), an indirect total dust (via MiniRam) action level of  $6.94 \text{ mg}/\text{m}^3$  has been determined as sufficient to prevent worker exposures above  $0.13 \text{ mg}/\text{m}^3$  of chlordane.

If MiniRam or air sampling data indicates that downwind airborne dust concentrations are greater than upwind levels, engineering controls and work practices will be modified to further minimize downwind migration. If monitoring indicates downwind airborne dust or pesticides levels exceeding 110 percent of the upwind levels, work in the area will be suspended until additional control measures can be implemented. A record of daily air monitoring will be maintained onsite.

In addition to site monitoring, initial and periodic air monitoring for demolition and earth moving equipment operators may be performed to provide information on the working zone.

Table 4 summarizes the projected frequency of air monitoring. The frequency may be reduced based on existing or previous sampling data.

**Table 4**  
**Frequency of Air Monitoring**

Tasks	Air Monitoring	MiniRam Monitoring	Personnel Sampling
Foundation Removal	Air samples along the perimeter of the work zone will not be collected during this task.	Sampling will be performed at 2 locations on a daily basis for the initial 5 days of foundation removal at each community.  Following the completion of the initial sampling, MiniRam sampling will be performed one day a week at 2 locations in each community until foundation removal is complete.	Initially, personnel exposure monitoring will be performed on approximately 20% of the workers (estimate 1 to 2 workers) performing foundation removal activities for a period of 3 days at each community.  Following completion of the initial sampling, personnel exposure monitoring will be repeated, on a quarterly basis for a period of one day per quarter per community, until foundation removal activities have been completed.

Table 4, continued

Tasks	Air Monitoring	MiniRam Monitoring	Personnel Sampling
Site Grading	Initially, air sampling will be performed during site grading at up and downwind locations in each community for 3 consecutive workdays during each phase in each community.  Following the completion of the initial sampling, air sampling will be performed, one day per month, at up and downwind locations in each community until site grading is complete.	Sampling will be performed at 2 locations on a daily basis for the initial 5 workdays of site grading at each community.  Following the completion of the initial sampling, MiniRam sampling will be performed one day a week at 2 locations in each community until site grading is complete.	Initially, personnel exposure monitoring will be performed on approximately 20% of the workers performing both rough and finish grading activities for a period of 3 days at each community.  Following completion of the initial sampling, personnel exposure monitoring will be repeated, on a quarterly basis, one day per quarter per community, until grading activities have been completed.

## 2.5 OTHER MITIGATION MEASURES DURING DEMOLITION AND CONSTRUCTION

The data from the 2004 Project suggests that the highest concentrations (maximum concentrations) are generally along the perimeter of the structures. However, the highest concentrations have been found under the concrete slabs. Most samples collected away from the structures either contain low or non-detectable concentrations of the chlorinated pesticides.

### 2.5.1 Use of Personal Protective Equipment

Contractors are responsible for developing and implementing their own Health and Safety Plans and the protection of their workers. Available information suggests that ingestion and dermal exposure pathways for construction workers are minimized through personal protective clothing, dust control, and good work hygiene practices. Personal protective equipment (PPE) should be selected which will protect construction personnel from the hazards and potential hazards they are likely to encounter during site demolition and construction. The demolition and grading contractors must also designate an onsite Health and Safety Representative from their onsite work force to monitor personnel.

In general terms, levels of protection associated with hazardous materials are divided into one of four levels, A-D. Levels A and B are normally associated with hazardous waste remediation and require the use of various levels of respiratory protection and specialized suits and gloves and boots. Level C requires the use of protective clothing, without respirators and Level D has no specific requirements for protective clothing other than normal construction clothing.

Based on the task hazard analysis, initial PPE in areas where soils are suspected to be impacted with pesticides should be:

- A modified Level D PPE including long sleeve shirts, long pants, gloves and hard hats and safety vests are required at the site at all times during demolition, grading, excavation, plumbing, electrical, backfilling and other outdoor construction activities where contact with soils occurs.



- If air monitoring and real-time respirable dust monitoring indicates airborne concentrations of dust above 3 milligrams per cubic meter (mg/m<sup>3</sup>), PPE should be upgraded to Level C as described in the following paragraphs. If a previously unidentified material is discovered during work operations, PPE should be modified as necessary and at the determination of a Certified Industrial Hygienist (CIH). The contractor is responsible for air monitoring on behalf of its worker safety program. Ohana Military Communities, LLC will be responsible for conducting air monitoring for its personnel.
- The level of protection provided by PPE selection should be increased when additional information on site conditions shows that increased protection is necessary to reduce workers and off-site resident exposures below established OSHA Permissible Exposure Levels (PEL) and published exposure levels for hazardous substances and health hazards.

**Table 5**  
**Upgraded PPE Requirements**

Location	Tasks	EPA Level	Equipment Required
Construction Site	All Tasks	C	Half mask air-purifying respirator equipped with HEPA cartridges Hard Hat Tyvek coverall Raingear Rubber over-boots Orange safety vests

- If the PPE is upgraded to Level C, a new disposable coverall is required each time a designated work area is entered. All workers will be required to remove coveralls and disposable footwear covers or boots when exiting the work area. The contractor should require that workers NOT eat, drink, smoke, chew tobacco or gum, or apply cosmetics in the work area. To eat, chew, drink or smoke, workers should follow the procedure described above, and then dress in street clothes before entering the non-work areas.
- Smoking or eating should NOT be conducted at the project sites. Hand wash (i.e., hygiene) stations should be present at exits to the construction area and adjacent to portable toilets to minimize dermal contact and ingestion.

Although dust control is also a mechanism to minimize ingestion and dermal exposure, these control measures are addressed under management of fugitive dust.

The contractor should maintain a daily logbook, including as-built drawings indicating areas where impacted soils have been deposited.

### **2.5.2 Control of Runoff from Impacted Soils**

All appropriate procedures will be implemented to prevent storm and other runoff from the construction area. Construction activities will comply with applicable laws, Ohana Military Communities, LLC's Storm Water Management Plan, and specific permit

requirements contained in site-specific National Pollutant Discharge Elimination System (NPDES) permits for the family housing areas.

### **2.5.2 Worker Health and Safety**

Contractors are responsible for the health and safety of their personnel. As such, contractors should prepare health and safety plans that encompass both physical and environmental potential hazards for personnel handling hazardous waste. At a minimum, the plan should include:

- A provision for daily tailgate meeting to review the plan. A site health and safety manager should be on site during all construction activities.
- Material safety data sheets (MSDS) for chemicals that the worker may encounter.
- Clear designation of the Project Area.
- Eating, drinking, or smoking should not be allowed in the Project Area.
- All workers performing soil-handling activities in areas where chlorinated pesticides are suspected to have impacted soils must have completed a Hazardous Waste Operations and Emergency course and have successfully completed, every year thereafter, the refresher course as mandated by 29 CFR 1910.120.
- Notifications will be provided to all subcontractors working on the site in areas where contact may occur with soils suspected of being impacted with pesticides.
- Either disposable clothing or coveralls will be worn in the Project Area when contact with soils suspected of being impacted with pesticides may occur. Coveralls will be kept at the job site and deposited at the jobsite for disposal prior to leaving the project area.

### **2.5.3 Hazardous Waste Handling**

Hazardous wastes discovered or generated in the communities should be handled in accordance with local, state, and federal laws and regulations. Individuals handling these materials should have successfully completed appropriate training in accordance with 29 CFR 1910.120. Care should be taken to keep these wastes secured from unauthorized access and to use appropriate measures of spill containment, storm water pollution prevention, and fugitive dust emissions.

### **2.5.4 Waste Disposal**

Hazardous wastes should not be removed from the site without prior written notification to the Department of the Navy. Local, state, and federal agencies regulate the characterization, management, handling, and disposal of hazardous wastes. After authorization from the Department of the Navy, all hazardous wastes will be disposed of in accordance with all federal, state and local laws and regulations. The Department of

the Navy will be provided a copy of the manifest required for disposal.

Soils being transported off site for treatment and/or disposal should be sampled and analyzed using the Toxicity Characteristic Leaching Procedure (TCLP) outlined in 40 CFR 261.24 and RCRA's hazardous waste list must be consulted. Soils containing concentrations in excess of the following thresholds should be considered hazardous for offsite transportation and treatment and/or disposal.

**Table 6**  
**Concentration Thresholds for Soil Disposal**

Contaminant	Regulatory Level (mg/L)
Chlordane	0.03
Lindane	0.40
Heptachlor	0.008
Heptachlor epoxide	0.008

The treatment or disposal facility should be contacted prior to transport for acceptability of the waste.

## **2.6 POST CONSTRUCTION**

Upon completion of construction activities, a report will be prepared and submitted to the Department of the Navy for activity closure. The report will include the results of the sampling program and any updates to mitigation measures based on the new baseline conditions. The information in the report may be used to support revision of this Pesticide Soil Management Plan.

### **3.0 PESTICIDE SOIL MANAGEMENT – OPERATIONS AND MAINTENANCE OF HOUSING AREAS**

#### **3.1 PLAN IMPLEMENTATION**

Pesticide-impacted soils (soil above SSLs or residential PRGs) in the housing areas will be managed throughout the lease period or until pesticide concentrations in soil have degraded to below the SSLs or residential PRGs. The plan will be used as part of the normal course of occupancy and operation and maintenance activities in these communities.

The Pesticide Soil Management Plan will be reviewed annually at a minimum and modified accordingly to conditions, changes in use, or laws and/or regulations. In addition to this section, Section 2.0 addresses specific activities that should be implemented during demolition and construction activities. All activities should be conducted in accordance with local, state, and federal laws and regulations.

Areas where soils are suspected of containing pesticide-impacted soils will be handled as if pesticides are present. As an alternative, these areas may be sampled and tested in accordance with Section 2.2 to verify the presence of pesticides. If pesticides are not identified, then the requirements for working in these areas may be waived. Further, controls and safety measures for management of pesticide-impacted soils will be evaluated to determine the need and cost effectiveness of these measures.

#### **3.2 TRAINING OF MAINTENANCE PERSONNEL**

Maintenance personnel responsible for implementing activities identified in this Plan will be adequately trained and capable of carrying out their work with pesticide-impacted soil in a manner that minimizes their exposure and the exposures of residents, visitors, and employees of the site to pesticides. The Maintenance Manager will implement periodic training, such that all appropriate facility personnel are familiar with this Plan. In addition to training, this Plan, along with the Storm Water Management Plan, the Spill Prevention, Countermeasures and Control Plan, the Partners Plan for Pest Control, and the Hazardous Materials Management Plan will be presented and reviewed by the Maintenance Manager. Notification of the availability for review of these documents will be made to all maintenance personnel and subcontractors that may manage or handle potentially pesticide-impacted soil prior to conducting work for the housing communities.

The training program should include as a minimum initial training and annual refreshers as specified in 29 CFR 1910.120. The training program should also address topics such as minimizing soil disturbance and dust control, good housekeeping, and material management practices.

#### **3.3 MAINTENANCE ACTIVITIES**

Trained maintenance personnel will be responsible for the following activities in areas where soil is suspected of being impacted with pesticides:

- Planting, landscaping or future activities that require excavation or soil

disturbance where soils impacted with pesticides are suspected. Appropriate cover must be maintained in areas where pesticides in soils are suspected to minimize exposure to dust, ingestion, or personal contact.

- Identification of known pesticide-impacted soils, including soils placed under foundations, in construction drawings. Location maps and drawings of known pesticide-impacted soil mapped during construction will be provided to maintenance personnel as part of hazard communication. Soil disturbance activity in pesticide-impacted areas (i.e., landscaping, etc.) will also be maintained by maintenance personnel. These records should be maintained at a central location and should be available to management personnel at all times.
- Soccer fields, parks and designated community playground areas where pesticides are suspected in soils will be visually monitored by trained personnel to identify and prevent soil exposure due to wear and tear or overuse. Appropriate measures will be taken to minimize exposure to these soils. If exposed soil is observed during routine inspection in areas suspected of containing soils impacted with pesticides, use of the area will be discontinued until appropriate measures are taken to prevent exposure to these soils. As an alternative, soil sampling and testing may be conducted to assess the presence of pesticides at these locations. If pesticides are not present above SSLs and residential PRGs, then mitigation measures may not be warranted and portions of the plan may be waived. If pesticides are present at or above SSLs and residential PRGs, then the appropriate mitigation measures will be implemented.
- Subsurface utility repair in areas where soils are suspected to be impacted with pesticides will be conducted by trained personnel or an approved subcontractor. Soil disturbance in areas suspected of containing pesticide-impacted soils will be limited to the area of repair. The exposed soil in these areas will be covered with plastic sheeting until the utility line is repaired. Appropriate measures will be taken upon backfilling to prevent exposure to the soils suspected of being impacted with pesticides. Appropriate measures may include, but not be limited to, placing a layer of clean soil, a minimum of 6 inches, in the upper portion of the trench and then planting ground cover, or paving the surface of the trench. The thickness of the clean soil layer is dependent upon site conditions and scheduled use with the purpose to prevent dust migration of the impacted soil and to minimize exposures to residents, visitors, and workers. Greater thickness of the clean soil layer may be warranted in areas where unauthorized penetration of this layer is increased such as in resident yards.
- All work areas or areas under repair that require disturbing soils suspected to be impacted with pesticides will be secured in such a manner to keep tenants and children from entering the work area.
- Eating, drinking, or smoking will not be allowed within immediate work areas containing soils suspected of being impacted with pesticides to prevent ingesting contaminated material. To minimize transport of soils impacted with pesticides into the residences and different locations, maintenance personnel will not enter areas that are not required by their job duties. Maintenance personnel should wash their hands before leaving work areas suspected of containing soils

impacted with pesticides to minimize dermal contact and ingestion.

- Disposable suits or coveralls should be used when digging or contacting soils suspected of being impacted with pesticides to prevent transferring the pesticide-impacted soils from the work area on worker clothing. Soiled coveralls used when working in these areas should be deposited on site for either disposal or commercial cleaning to minimize transport of impacted clothing to worker homes.

### **3.4 EVALUATION AND INSPECTION**

Maintenance personnel will inspect, on regular intervals, for exposed soil and soil disturbance in areas where soils are suspected to be impacted by pesticides.

Monthly visual inspections may be conducted to monitor for areas of exposed soils in areas suspected of containing soils impacted with pesticides. Appropriate measures will be implemented to prevent exposure to these soils.

### **3.5 USE OF PERSONAL PROTECTIVE EQUIPMENT**

It may be necessary at times to wear personal protective equipment (PPE) when handling or disturbing pesticide-impacted soils. Ingestion and dermal exposure pathways for maintenance personnel are minimized through personal protective clothing, dust control, and good work hygiene practices. PPE should be selected which will protect maintenance personnel from the hazards and potential hazards they are likely to encounter during the handling or disturbance of soils suspected of being impacted by pesticides. Selection of the appropriate PPE will be made by the onsite health and safety officer based on the monitoring data and the thresholds listed in the onsite health and safety plan.

Protective clothing, such as coveralls and gloves, must be worn whenever personnel may come into contact with pesticide-impacted soils. Soiled coveralls used while working in pesticide-impacted areas should be deposited on site for disposal or commercial cleaning to prevent transport of the impacted clothing to worker homes. Examples of work that may occur in an area suspected of containing pesticides include:

- Soil disturbance beneath protective ground cover and protective clean soil cover (i.e., digging or trenching)
- Subsurface utility repair
- Construction or demolition activities around foundations of existing residences

### **3.6 DISPOSAL OF PESTICIDE-IMPACTED SOILS**

Excess pesticide-impacted soils may need to be transported off-site to PVT landfill in Nanakuli. The Manager will contact PVT landfill and meet acceptance criteria prior to hauling to the landfill. Based on acceptance by the landfill, pesticide-impacted soils with levels below the industrial PRGs from housing communities on Oahu and from PMRF Kauai may be transported as landfill cover material to Waimanalo Gulch and Kekaha landfill, respectively.

Pesticide-impacted soils may be considered hazardous waste under certain conditions including transporting the material off site. The Resource Conservation and Recovery Act (RCRA) and the corresponding Hawaii state law (refer to the Hazardous Materials Management Plan) regulate the disposal of hazardous waste. If a specific waste is listed, exceeds regulatory levels, or fails specified tests under RCRA or state law, then the waste may be classified as hazardous. Hazardous waste must be transported by a licensed transporter and disposed, stored, or treated at a permitted facility. The permitted facility must be contacted prior to shipment to determine suitability and acceptability by the facility. Once disposal authorization has been obtained to dispose of pesticide wastes at a specific approved facility, a manifest must be prepared by the generator of the hazardous waste. The manifest will accompany the waste to the disposal facility. Copies of manifests should be kept and filed in a central location along with other pertinent hazardous materials documentation.

### **3.7 NOTIFICATIONS**

Written notifications will be provided where residents and contractors may contact soils impacted with pesticides.

## **4.0 RELIANCE LANGUAGE**

### **4.1 USE BY THIRD PARTIES**

This report was prepared for Ohana Military Communities, LLC, its Managing Member and other Members of Ohana Military Communities, LLC. It may be relied upon by Ohana Military Communities, LLC, (b) (4)

the United States of America, Department of the Navy, Ohana Military Communities, LLC's (b) (4)

and each of their respective officers, directors, employees, affiliates, successors, assigns, legal counsel and advisors.



**APPENDIX A**

**PHASE II ENVIRONMENTAL SITE ASSESSMENTS –  
SUBSURFACE INVESTIGATION REPORTS FOR THE  
MARINE CORPS PHASE II AND NAVY PHASE III PROJECTS**

**(to be provided)**

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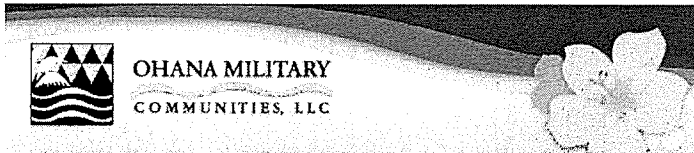
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# ***SPILL PREVENTION, COUNTERMEASURES AND CONTROL PLAN***

## ***OHANA MILITARY COMMUNITIES, LLC PUBLIC-PRIVATE VENTURE HOUSING - HAWAII***

***Prepared for***



***2969 Mapunapuna Place  
Honolulu, Hawaii 96819***

***October 1, 2006***

***Prepared by***

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**PARSONS**

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## APPENDICES

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## **1.0 INTRODUCTION**

In Section 311 of the Clean Water Act of 1990, pollution from oil and hazardous substance releases is addressed and provides the United States Environmental Protection Agency (EPA) with the authority to establish a program for the discharge of oil to or upon navigable waters of the United States. The Spill Prevention, Countermeasures and Control Plan (SPCC Plan ) includes provisions for notifying authorities of spills or releases, and proper procedures for spill response and containment. SPCC plans are regulated by EPA, however, in Hawaii, the Department of Health (DOH), Clean Water Branch enforces the SPCC plan regulations.

The EPA Oil Pollution Prevention regulations, 40 CFR Parts 110 and 112, define a spill as the discharge of oil into, or upon, the navigable waters of the United States or adjoining shorelines, in harmful quantities. Harmful quantities are defined as a discharge that violates applicable water quality standards or causes a sheen upon, or discoloration of, the surface of the water or the adjoining shorelines. The definition of a spill also includes contaminated groundwater that seeps, leaches, or flows into navigable waters. Storm sewers are considered in the definition of a "navigable waterway."

The SPCC Plan applies to non-transportation-related facilities, as defined in EPA regulations, that could reasonably be expected to discharge oil into navigable waters of the United States. SPCC regulations require each owner or operator of a regulated facility to prepare an SPCC plan. The SPCC Plan must address the facility's design, operation, and maintenance procedures established to prevent spills from occurring, as well as countermeasures to control, contain, clean up, and mitigate the effects of an oil spill that could affect navigable waters. Given the nature of the activities Ohana Military Communities, LLC will be undertaking, it is determined that it is not expected that Ohana Military Communities, LLC will be required to prepare and implement an SPCC Plan in accordance with 40 CFR Part 112. If, however, Ohana Military Communities, LLC is subject to 40 CFR Part 112, this SPCC Plan shall be implemented.

All activities performed under this Plan shall be performed in accordance with Environmental Laws. "**Environmental Laws**" means any present or future federal, state, or local law, regulation, ordinance, code, plan, order, permit, grant, restriction, certification, or agreement issued, entered, promulgated or approved thereunder, relating to (a) the generation, manufacture, presence, release, discharge, use, storage, handling, transportation or disposal of Environmental Hazard, including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 42 U.S.C. § 9601, et seq., as amended, the Clean Water Act, 33 U.S.C. § 1251, et seq., as amended, and Solid Waste Disposal Act, 42 U.S.C. § 6901, et seq., as amended, (b) pollution, (c) environmental protection, (d) human health or occupational safety, (e) endangered or threatened species or (f) the environment. To the extent this Plan is attached to the Ground Lease, this Plan shall be followed by the Manager and Lessee. For the purpose of the Plan, the term "**Manager**" shall mean the Design-BUILDER under the Design-Build Agreement, and Construction Manager under the Construction Management Agreement, and Property Manager under the Property Management Agreement and "Lessee" under the Ground Lease. All conflicts between this Plan and the Ground Lease shall be governed by the Ground Lease. The Manager will comply with requirements of this Plan and EPA's SPCC program.

Capitalized terms not otherwise defined herein shall have the meanings set forth in the Ground Lease, dated as of even date herewith, by and between the Lessee and the Department of the Navy (the Ground Lease).

This Plan covers the Leased Premises and Project.

It is highly unlikely that Ohana Military Communities, LLC will own an aboveground or underground storage tank (AST or UST). However, in the event that Ohana Military Communities, LLC owns and operates an AST on the premises, Ohana Military Communities, LLC will regularly inspect all ASTs and associated piping for leaks and periodically test these items. All aboveground containment structure drain valves will be locked, closed, and opened by Ohana Military Communities, LLC only after collected storm water has been inspected for signs of contamination. If any evidence of contamination is observed other than pre-existing conditions identified in the Environmental Baseline Survey (EBS), Phase I Environmental Site Assessments (ESA), or Phase II ESAs, Ohana Military Communities, LLC will sample, analyze and dispose of the water in accordance with Environmental Laws and under no circumstances will any spills or releases within the bermed area be released to the surrounding soil or ground surface. Any materials released from tank(s) or piping into the bermed area will be contained and properly disposed of by Ohana Military Communities, LLC in accordance with Environmental Laws. Ohana Military Communities, LLC shall notify the Government within twenty four (24) hours of any release from any portion of an AST or UST system within the Premises and will implement mitigation as soon as possible in compliance with requirements of Environmental Laws. All correspondence with regulatory agencies regarding ASTs and USTs including, but not limited to, reports, site characterization data, and corrective action plans, will have prior approval of the Government, unless required by Environmental Laws. Ohana Military Communities, LLC will not install, modify, close or remove any ASTs or USTs without prior written Government authorization. Equipment repairs may only be performed by Ohana Military Communities, LLC on impervious areas where hazardous substance releases can be contained (i.e., within a bermed area or an area surrounded by absorbent pads, containment curbs, or other spill containment equipment). Hazardous substances including oil and fuel generated during repairs and maintenance by Ohana Military Communities, LLC will not be flushed to the floor or storm drains. If the tank(s) meet the minimum threshold volume criteria of 1,320 gallons for ASTs or 42,000 gallons for UST, a SPCC Plan will be prepared by Ohana Military Communities, LLC.

## **2.0 SPILL PREVENTION, COUNTERMEASURES AND CONTROL TEAM**

In the event a SPCC Plan must be implemented, a SPCC team will be established to implement the policies, practices, and operational improvements of the SPCC Plan. It will be the responsibility of the Manager to identify specific individuals within the organization who will be members of the SPCC Team. Worksheet Number 1 in Appendix A will be completed once individual team members and their respective responsibilities are identified.

The team members are responsible for assisting the Manager in the implementation, maintenance, and revision of the SPCC Plan. Worksheet Number 1 shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address the aspects of the SPCC Plan.

### **3.0 SPILL PREVENTION AND CONTAINMENT**

Significant quantities of oil and/or hazardous materials will not be stored within the family housing areas, therefore it is unlikely that a large scale spill will occur. Potential sources of pollutants at the site include non-hazardous solid waste accumulation, household hazardous waste, non-industrial sources (i.e., paved parking areas), and outdoor storage units. Individual household activities such as landscaping practices, personal automobile maintenance and repairs, and storage of household maintenance and automobile-related products, can also be potential pollutant sources but are not subject to the SPCC Plan. These potential pollutant sources and hazardous materials are covered under the Hazardous Materials Management Plan.

#### **3.1 POTENTIAL POLLUTANT SOURCES**

##### Non-Hazardous Solid Waste Accumulation Area

Non-hazardous solid waste is accumulated in roll-off bins and/or individual waste bins located throughout the housing areas. Non-hazardous solid waste accumulated includes household trash and green waste.

Water may accumulate in the bin during storm events if the bins are uncovered. The water that accumulates in the bin may dissolve or suspend pollutants and leak from the bin. In addition, residue and debris from trash disposal operations may accumulate on the ground surrounding the area. Residue may remain on surfaces exposed to water runoff, and therefore may contribute to levels of total suspended solids (TSS) present in stormwater discharge.

Currently, spill prevention methods are in place to minimize the potential for pollutants to come in contact with surface water runoff. The methods include keeping the bins in the housing areas covered to reduce the potential for exposure to a storm event or water runoff, by minimizing the potential for possible pollutants entering the navigable waters.

##### Non-Industrial Sources

The residence vehicle parking areas are the primary source of non-industrial stormwater discharge pollutants within the housing areas. During dry periods, oils, grease, coolant and particulate matter from vehicle underbodies, brake pads, and tires are incidentally deposited on the surfaces of the parking areas. During a stormwater event these non-industrial pollutants have the potential to contribute to levels of TSS, and oil and grease (O&G) present in the water runoff and modify the specific conductance and pH of the navigable waters surrounding the site.

##### Storage Units (Household Hazardous Waste)

Storage units located on the exterior of the homes may be used for the storage of personal items by the tenants as well as household chemicals including, but not limited to, small amounts of cleaning products, paints, motor oil, and gasoline used for individual household and landscape maintenance. Although it is unlikely that a spill will occur in the storage units, proper management and storage of hazardous chemicals, in addition to



waste containers will greatly reduce the likelihood of a significant release and/or exposure of facility personnel or the environment to the release.

Tenants will be encouraged to properly dispose of household hazardous waste through the City and County Household Hazardous Waste Program and MCBH's Waste Collection Program.

### **3.2 CONTAINMENT MEASURES**

Spill containment measures will help reduce the probability of a release of oil and/or hazardous materials into navigable waters of the United States or its adjoining shoreline as well as preventing harm to individuals that might come into contact with hazardous materials. The following control measures are designed to reduce the potential for spillage or leaks, as well as promote general awareness among the public and facility employees to minimize exposure to the dangers of hazardous materials and meet the requirements of all applicable laws and regulations.

#### Transportation of Oil and/or Hazardous Materials

- Inspect all containers prior to loading and ensure all caps, plugs and bungs are tightened.
- Handle containers carefully when loading them onto vehicles.
- Secure containers properly to prevent shifting during transport.
- Check containers periodically enroute.
- Educate and inform the driver of the proper transportation precautions.
- Never transport hazardous chemicals unless arrangements have been made to receive and store them properly.
- Understand and comply with applicable legal requirements pertaining to the transportation of hazardous materials and hazardous wastes [e.g., Department of Transportation (DOT) requirements].

#### Storage of Oil and/or Hazardous Materials

- Oil and/or hazardous materials should be managed and stored in accordance with all applicable federal, state and local regulations.
- All containers should be labeled in accordance with applicable federal, state and local regulations.
- Store oil and/or hazardous materials in their original containers with labels intact.
- Do not store oil and/or hazardous materials or empty chemical containers outdoors uncovered where exposure to inclement weather can occur.

- Check containers prior to storage and periodically during storage to ensure that they are properly sealed.
- Use storage buildings that have floors constructed of impermeable materials such as concrete so that spills are easy to clean up.
- Ensure that storage facilities can be secured under lock and key.
- Locate oil and/or hazardous materials storage facilities away from streams, bodies of water, or storm drain inlets and be prepared to clean up spills.

#### Off-Site Sources

There are no off-site sources that can contribute to spill prevention, control, and response at housing areas covered by this Plan.

## **4.0 SPILL RESPONSE**

The Manager manages all maintenance and construction operations for Ohana Military Communities, LLC and will be responsible for implementation of the spill response and emergency procedures summarized below in the event of a spill at each location in coordination with purchasing, engineering and loss prevention functions within Ohana Military Communities, LLC management. These practices address the potential pollution source areas and the control measures necessary during a spill event.

### **4.1 SPILL RESPONSE PROCEDURES**

The following procedures will be adhered to in the event of a spill.

#### **4.1.1 Discovery of a Release**

The person discovering a release of material from a container, tank, or operating equipment should initiate certain actions immediately, including:

- a. Extinguish any sources of ignition. Until the material is identified as nonflammable and noncombustible, all potential sources of ignition in the area should be removed. Vehicles should be turned off. If the ignition source is stationary, attempt to move spilled material away from the ignition source. Avoid sparks and movement creating static electricity.
- b. Identify the material released. Consult the corresponding material safety data sheet (MSDS) which provides the information for proper identification of the characteristics of the released material.
- c. Attempt to stop the release at its source. Assure that no danger to human health exists first. Simple procedures (turning valves, plugging leaks, etc.) may be attempted by the the person discovering the spill if there are no health or safety hazards and there is a reasonable certainty of the origin of the leak.
- d. Initiate spill notification and reporting procedures. Report the incident immediately to the proper authority. If there is an immediate threat to human life (e.g. a fire in progress or fumes overcoming workers), request the assistance of the area fire department or other hazardous materials response team if an uncontrollable spill has occurred and/or if the spill has migrated beyond the site boundaries.

#### **4.1.2 Containment of a Release**

If material is released outside a containment area, it is critical that the material be contained as quickly as possible. Action to be conducted may include:

- a. Attempt to stop the release at the source. If the source of the release has not been found, if special protective equipment is necessary to approach the release area or if assistance is required to stop the release, the area fire department or other hazardous materials response team should be contacted.

- b. Contain the material released into the environment. Following proper safety procedures, the spill should be contained by absorbent materials and dikes using shovels and brooms. Consult applicable MSDS for material compatibility and environmental precautions.
- c. Recover or cleanup the material spilled. As much material as possible should be recovered and reused where appropriate. Material which cannot be reused must be disposed of as hazardous waste. Liquids absorbed by solid materials shall be shoveled into an open top drum, or if the size of the spill warrants, into a roll-off container. When drums are filled after a cleanup, the drum lids shall be secured and the drums shall be appropriately labeled identifying the contents, the date of the spill/cleanup, and the site name and location. Combining incompatible materials can cause potentially dangerous chemical and/or physical reactions or may severely limit disposal options. Compatibility information can be found on the MSDS.
- d. Clean the spill area. Surfaces that are contaminated by the release should be cleaned using an appropriate substance or water. Cleanup water must be minimized, contained and properly disposed. Occasionally, porous materials (such as wood, soil, or oil-dry) may be contaminated; such materials will require special handling for disposal.
- e. Decontaminate tools and equipment used in cleanup. Even if dedicated to cleanup efforts, tools and equipment that have been used shall be decontaminated before replacing them in the spill control kit.
- f. Notification and reports to outside agencies. The Manager shall determine if a reportable spill has occurred and shall make all necessary notifications. Verbal notification to government agencies and emergency planning committees shall be executed, if necessary. In all cases where verbal notification is given, a confirming written report shall be sent to the same entity.
- g. Arrange for proper disposal of any waste materials. The waste material from the cleanup must be characterized pursuant to the local implementing agency. The waste must be transported and disposed of in compliance with all applicable laws and regulations.
- h. Review the SPCC Plan. Appropriate personnel shall review spill response efforts, notification procedures, and cleanup equipment usage to evaluate their adequacy during the episode. Where deficiencies are found, the Plan shall be revised and amended.

#### **4.1.3 Internal Report**

Spills that are regulated per the SPCC Plan will be documented using Worksheet Number 2. At a minimum, the report will document the following items:

- a. Date, time, and duration of the release;

- b. Type of Incident;
- c. Materials Involved;
- d. Extent of injuries
- e. Assessment of potential hazards
- f. Recovered materials
- g. SPCC Plan discrepancies; and
- h. Prevention of similar incidents.

#### **4.1.4 Spill, Fire, and Safety Equipment**

Fire hydrants will be located at the maintenance and warehouse facilities to aid emergency response teams in the event of a fire. Other safety equipment will be kept off-site with emergency personnel.

#### **4.1.5 Liaison with Local Authorities**

Currently, there is no requirement to submit copies of this Plan to the lead regulatory agency (Federal Fire Department or Honolulu Fire Department) due to it's facility use and fuel and hazardous materials storage status.

### **4.2 REPORTING PROCEDURES/EMERGENCY REPORTING CONTACTS**

In the State of Hawaii, owners and operators of facilities reporting releases of oil and/or hazardous substances are subject to state notification requirements under the Hawaii Emergency Planning and Community Right-to-Know Act (HEPCRA) and Title 11, Chapter 451, Hawaii Administrative Rules, the State Contingency Plan (SCP).

Pursuant to the requirements of the State Contingency Plan, the owner or operator of a facility must immediately notify the Hawaii State Emergency Response Commission (HSERC) and the Hawaii Department of Health Office of Hazard Evaluation and Emergency Response (HEER) (586-4249 or 247-2191 after work hours) and the Local Emergency Planning Committee (LEPC) of the appropriate jurisdiction after the release of:

1. A listed hazardous substance designated under section 11-451-5(b), in quantities equal to or exceeding the reportable quantity criteria in section 11-451-6(b) in any 24-hour period; or
2. An unlisted hazardous substance designated under section 11-451-5(c), in quantities equal to or exceeding the reportable quantity criteria in section 11-451-6(c) in any 24-hour period.

Note: HSERC/HEER are listed together because the Hawaii Department of Health Hazard Evaluation and Emergency Response Office is the administrative contact for the Hawaii State Emergency Response Commission.

Commander, Navy Region Hawaii (CNRH) will also be notified of any spills that require notifications to the Hawaii DOH HEER Office.

An exception from immediate notification is provided for releases of less than 25 gallons of oil in any 24-hour period which is not contained and remedied within 72 hours. Such releases must be reported in written form only within 30 days of the discovery of the release. In the case of a release that occurs "with respect to transportation of a substance," dialing 911 or contacting the operator and reporting such a release will satisfy the initial emergency notification requirements. The owner or operator of the facility or vessel must also provide a written follow-up notice. If a release of a hazardous substance poses an imminent or immediate threat to public health or the environment, dial 911 to request fire, police, or emergency medical service personnel response.

#### Immediate Notification Contents

Immediate verbal notification to CNRH, the HDOH and LEPC shall consist of providing the following information to the extent known at the time of the notice so long as no delay in responding to the emergency results. (Do not delay due to incomplete notification information related to the release.)

1. The name (trade and chemical) and chemical abstract service (CAS) registry number, if available, of the hazardous substance which has been released;
2. If the released substance is an Extremely Hazardous Substance as defined in 40 CFR 355.30
3. The approximate quantity of the hazardous substance, pollutant, or contaminant which has been released;
4. The reportable quantity or other notification threshold that is the basis for notification;
5. The location of the release;
6. A brief description of the release including the medium or media into which the release occurred or is likely to occur, and the cause of the release;
7. The date, time, and duration of the release, and the date and time that the person in charge of the facility or vessel where the release occurred, obtained knowledge of the release;
8. The source of the release;

9. The name, address and telephone number of the caller;
10. The name, address and telephone number of the owner and operator of the facility or vessel where the release has occurred;
11. The name and telephone number of a contact person at the facility or vessel where the release has occurred;
12. Measures taken or proposed to be taken in response to the release as of the time of the notification, and any appropriate information relating to the ability of the owner or operator of the facility or vessel where the release has occurred to pay for or perform any proposed or required response actions;
13. The names of other federal, state, or local government agencies that have been notified of the release;
14. Any known or anticipated acute or chronic health risks associated with the release and where appropriate, advice regarding medical attention necessary for exposed individuals; and
15. Any other information which is relevant to assessing the hazard posed by the release, including but without limitation potential impacts to public health or welfare, or the environment.

#### Written Follow-Up Notification Contents

Notice, including all information provided in the verbal notification described above and any other pertinent information not previously provided, shall also be made in writing to the DOH. This written notice shall be post-marked no later than thirty (30) days after initial discovery of a release, and sent by certified mail or other means which provides proof of delivery.

#### Federal Requirements under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and Emergency Planning and Community Right-to-Know Act (EPCRA)

Releases of Reportable Quantities (RQ) of CERCLA hazardous substances must also be reported to the National Response Center at 1(800) 424-8802. This guideline is general in nature and is provided to assist in complying with HEPCRA and the SCP in Hawaii and does not have the force and effect of law. To ensure full compliance under the law, persons affected should review the appropriate Federal and State statutes and regulations. Failure to report a covered release under these laws and regulations may prompt EPA or State enforcement action including penalties not to exceed fines of \$25,000 per day per violation or imprisonment. Copies of the laws and regulations may be obtained by contacting the HSERC/HEER at 586-4249 or the EPCRA Hotline at 1(800) 424-9346.

Under EPCRA, emergency planning requirements are applicable if a facility stores an amount of an extremely hazardous substance(s)(EHS) equal to or greater than the

threshold planning quantity (TPQ) for that substance. The facility will need to notify both the HSERC and the LEPC, and appoint an emergency response coordinator who will work with the LEPC on developing and implementing the facility's emergency response plan. Under Section 304 of EPCRA, releases of chemicals that are a physical or health hazard to the environment (outside of facility boundaries) above the corresponding RQ must be reported immediately to the HSERC and the LEPC, with follow-up written notification as soon as practicable. Under Sections 311 and 312 (Community Right-To-Know provisions), a facility must report to the HSERC, LEPC, and the local fire department any hazardous chemicals onsite on any one day that are equal to or greater than 10,000 lbs for hazardous chemicals or lesser of 500 lbs or the TPQ for EHSs. If the facility routinely releases toxic chemicals to the environment, the facility may be subject to reporting such releases to the EPA under the Toxic Chemical Release Inventory Form (Form R) based on criteria in Section 313 of EPCRA.



## **5.0 PROGRAM MANAGEMENT AND TRAINING**

### **5.1 MONITORING AND INSPECTIONS**

If required, the SPCC Plan will establish regular inspections to ensure that all spill prevention and control measures are in place. Spill kits will be available at hazardous materials storage areas. Fuel trucks utilized by construction contractors will have spill kits in the trucks.

### **5.2 EMPLOYEE TRAINING**

A training program is essential for the proper implementation and maintenance of the SPCC Plan. The training program will inform personnel responsible for implementing activities identified in the SPCC Plan or otherwise responsible for spill prevention and control, at all levels of responsibility, of the components and goals of the SPCC Plan. Worksheet Number 3 in Appendix A will be used to log the training topics and participants that take place.

If required, an annual SPCC training program for employees will be implemented for each housing area. Employee training will address the goals of the SPCC Plan and the responsibility of each employee. Topics discussed will include the following:

1. Goals of the SPCC Plan
2. Employee responsibilities
3. Spill response procedures
4. Good housekeeping practices
5. Material management practices
6. Review of the potential pollutant sources
7. Review of the spill prevention and control measures implemented at the site
8. Role of the SPCC team
9. Required inspections
10. Recordkeeping/reporting requirements

### **5.3 PLAN REVISIONS**

The SPCC Plan is to be modified as required by applicable Environmental Laws, or as appropriate to meet the current needs of Ohana Military Communities, LLC as well as any future permit conditions. The revised sections of the plan will be reflected in the revision number at the top of the page.

## 6.0 RELIANCE LANGUAGE

### 6.1 USE BY THIRD PARTIES

This report was prepared for Ohana Military Communities, LLC, its Managing Member and other Members of Ohana Military Communities, LLC. It may be relied upon by Ohana Military Communities, LLC, (b) (4) Ohana Military Communities, LLC, the United States of America, Department of the Navy, Ohana Military Communities, LLC's (b) (4)

and each of their respective officers, directors, employees, affiliates, successors, assigns, legal counsel and advisors.

**APPENDIX A**  
**WORKSHEETS**

Worksheet No. 1 SPCC Team		Completed by:
		Title:
		Date:
		Page:      of
Name, Title	Responsibilities:	Notes
Facilities Manager	1. Identify and document activities that can lead to spills and releases within the housing areas.	
	2. Develop Identify appropriate spill prevention and containment methods to reduce or eliminate the potential for a spill or release.	
Maintenance Crew	1. Implement spill prevention and containment methods and carry out associated maintenance activities to ensure that all identified activities that can lead to spills and releases are resolved.	
	2. Conduct and document routine maintenance.	
	3. Inspect the housing areas regularly.	
	1.	
	2.	
	3.	
	4.	
	1.	
	2.	
	3.	
	4.	

## Worksheet No. 2

## LIST OF SIGNIFICANT SPILLS AND LEAKS

by: \_\_\_\_\_

**Title:** \_\_\_\_\_

Date: \_\_\_\_\_

Page: \_\_\_\_ of \_\_\_\_

**Directions: Record below all significant spills, releases, and significant leaks of toxic or hazardous pollutants that occur at the property.**

**Definitions:** Significant spills include, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities.

[illegible]

**Worksheet No. 3  
EMPLOYEE TRAINING**

**Completed by:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**Page:** \_\_\_\_ **of** \_\_\_\_

**Instructions: Describe the employee training program for your facilities below. The program should, at a minimum, address spill prevention and response, good housekeeping, and material management practices.**

<b>Training Topics</b>	<b>Brief Description of Training Program/Materials (e.g., film, newsletter course)</b>	<b>Schedule for Training (list dates)</b>	<b>Attendees</b>
<b>Spill Prevention and Response</b>			
<b>Good Housekeeping</b>			
<b>Material Management Practices</b>			
<b>Other Topics:</b>			